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Prevalence of diabetes mellitus, prediabetes, and insulin resistance in the Qazvin Metabolic Diseases Study, Iran

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Abstract:

It has been predicted that people with diabetes mellitus (DM) in Iran will be more than 5 millions in 2025. Impaired fasting glucose and impaired glucose tolerance are considered as prediabetic state. Insulin resistance (IR) is an important risk factor of developing metabolic disorders including type 2 diabetes mellitus. The aim of this study was to determine the prevalence of DM, prediabetes, and IR in the Qazvin, Iran. This cross sectional study was conducted on 1107 subjects (aged 20-78 years) selected by multistage cluster random sampling method between September 2010 and April 2011 in Qazvin, Iran. Standardized measurements were available for fasting serum glucose and insulin and oral glucose tolerance test (OGTT). Impaired fasting glucose was defined as fasting plasma glucose levels ≥ 100 but < 126 mg/dL. Impaired glucose tolerance was defined as 2-h values in the OGTT ≥ 140 but < 200 mg/dL. Impaired fasting glucose and impaired glucose tolerance were considered as prediabetes. Diabetes was defined as fasting plasma glucose ≥ 126 mg/dL or 2-h post-load glucose ≥ 200 mg/dL during an OGTT, or previous diagnosis of diabetes. Lower limit of the top quintile of the homeostasis model assessment (HOMA) values in normal subjects was considered as the threshold of IR. Of 1107, 529 were female. Mean age was 40.08 ± 10.33 . Mean fasting plasma glucose and 2-h glucose were 99.74 ± 29.52 mg/dL and 113 ± 46.87 mg/dL, respectively. The prevalence of DM, prediabetes, and IR were 11.5%, 23.9%, and 54.1%, respectively. The prevalence of DM was 9.4% in females and 13.6% in males (P: 0.045). The most important finding of the present study is the high prevalence of DM, prediabetes, and IR in Qazvin, Iran. The high prevalence of IR warns about the future burden of type 2 diabetes and the necessity of preventive programs.

Disclosure

Nothing to declare.

Keywords:

Insulin Resistance, Diabetes Mellitus, Prediabetic State, Prevalence

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